

SELF WIPING TOILETRY DEVICE

3 This application claims priority of U.S. Provisional Patent Application #60/399,362, filed 7/30/2002.

BACKGROUND OF THE INVENTION

8 The present invention relates in general to toiletry devices and more particularly to a device
9 and method for promoting optimum personal hygiene, especially for persons having limited hand
10 and/or arm function. The present art device specifically allows the aforesaid persons to function
11 independently when using the restroom, and also assists persons lacking the physical dexterity to
12 practice optimum personal hygiene when using the restroom by providing a device and method of use
13 which allows a person to hygienically wipe after toilet use.

14 The device in its preferred assembled form comprises a nearly "L" shaped form having a hand
15 grip and a thumb triggerable toilet paper release button at a first end. The aforesaid handgrip also
16 functions as a toilet paper roller, utilizing a grip-release locking switch (much like a flash light
17 switch), which allows release of the grip. Once released, the grip is allowed to spin freely and allow
18 rolling of toilet paper prior to installation of said rolled paper on or near a second end of the device.
19 The second end of the device comprises a gently-tapered toilet paper mandrel or spindle having a
20 closed end, around which the aforesaid pre-rolled amount of toilet paper (to be pre-rolled by the user)
21 is slid on and held in place by a retainer arm which mates with a groove in said mandrel, said groove
22 and arm combination forming a jaw system. Said arm is actuated, i.e. opened and closed, with said
23 toilet paper release button. That is, when said release button is depressed, the arm opens for
24 placement or release of the aforesaid toilet paper preroll. In the preferred embodiment, the base of
25 the "L" shape relates to the stem of the "L" shape with an approximately 75 degree minor angle for
26 ease of use and conformance with the user's body. Alternative embodiments may increase or
27 decrease this angle without departing from the scope and spirit of the present invention.

28 Accordingly, it is an object of the present invention to provide an improved self wiping
29toiletry device and method of use which provides an apparatus and method for a user to hygienically
30wipe after toilet use, especially when said user lacks physical dexterity to practice optimum personal
31hygiene without the aid of such a device.

1 Another object of the present invention is to provide a lightweight and easy to use self wiping
2 toiletry device which assists the user in rolling toilet paper and further allows the user to utilize said
3 rolled paper for wiping.

4 A further object of the present invention is to provide a self wiping toiletry device which
5 provides the aforesaid benefits in a form which is easily and inexpensively molded.

6 A still further object of the present invention is to provide a self wiping toiletry device with
7 all of the aforesaid features which easily disposes of and does not require the user to contact the
8 soiled paper after use.

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10 SUMMARY OF THE INVENTION

11 To accomplish the foregoing and other objects of this invention there is provided a self
12wiping toiletry device and method of use which is especially useful for promotion of personal
13hygiene among persons lacking the physical dexterity necessary to practice tradition wiping. The
14apparatus essentially comprises in a preferred embodiment, a substantially "L" shaped form having
15a rotating hand grip with a grip-release locking switch and a thumb triggerable toilet paper release
16button at a first end and a second end having a gently-tapered toilet paper mandrel or spindle with
17a closed end and a preferably serrated retainer arm, operated by said button, which mates with a
18preferably serrated groove in said mandrel, said groove and arm combination forming a jaw system.

19 The apparatus at the second end securely holds the aforesaid rolled section of toilet paper until
20 the user is ready to release it from the device by pushing the release button on said first end. A
21 unique and desirable aspect of the present art is that at no time must the user have contact with the
22 soiled paper, nor must the device ever come in contact with the toilet water. The user simply pushes
23 the release button after use and discards the paper into the toilet.

24 In its preferred form, the apparatus comprises a housing having a cavity formed from a first
25 and second half, a linkage moveably positioned within said housing having said release button as a
26 first end, a retainer arm having a torsion spring closure bias and pivotably mounted within said
27 housing and extending externally along said mandrel or spindle, the aforesaid mandrel/spindle, the
28 aforesaid locking switch slideably mounted within said housing, and the aforesaid hand grip which
29 is rotatably mounted over said housing near said first end. A second end of the aforesaid linkage

1 pivotably attaches with said retainer arm whereby said arm may be actuated or opened by said release
2 button. The aforesaid torsion spring bias assures that the release button extends from said housing
3 near said first end when not depressed by the user.

4 In the preferred embodiment, each half housing has one or more guides which fit within slots
5 within said linkage and serve to mechanically position or control the movement of said linkage within
6 the housing. Further contained within said housing halves is a pivoting shaft on which said retainer
7 arm pivots. Said pivoting shaft is located near said second end of said housing and also preferably
8 serves as the moment axis for said torsion spring.

9 The retainer arm comprises a front end elongated member having a top side contoured to
10 follow and mate with at least a portion of the external portion or contour of said mandrel or spindle.
11 Preferably said retainer arm follows a groove within said mandrel or spindle which also substantially
12 follows the contour of said mandrel or spindle. In the preferred embodiment, said retainer arm mates
13 with said mandrel on the bottom side or side farthest from said first end.

14 The device of the present invention may be manufactured from a plurality of materials,
15 including but not limited to plastics, metals, woods, composites, and papers. In a preferred
16 embodiment, all the components of the apparatus are composed of plastic material.

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BRIEF DESCRIPTION OF THE DRAWINGS

20 Numerous other objects, features and advantages of the invention should now become
21 apparent upon a reading of the following detailed description taken in conjunction with the
22 accompanying drawings, in which:

23 FIG. 1 is a right side plan view of the assembled self wiping toiletry device which is
24 substantially symmetrical with a left side plan view.

FIG. 2 is a front side plan view of the assembled apparatus.

FIG. 3 is a right side plan view of the apparatus with hand grip removed and placed on the right side.

28 FIG. 4 is an assembly plan view of the dis-assembled self wiping toiletry device showing
29 the two housing halves, linkage, retaining arm, mandrel, switch, and hand grip.

FIG. 5 is a left side exploded plan view of the retaining arm with attached torsion spring around the hub which is substantially symmetrical with the right side view thereof.

FIG. 6 is a back side plan view of the linkage showing the release button on the first end and the positioning shaft on the second end.

FIG. 7 is an external plan view of each half of the housing.

6 FIG. 8 is a rear side plan view of the assembled self wiping toiletry device.

7 FIG. 9 right plan view of the assembled self wiping toiletry device showing the linkage,
 8 retaining arm, torsion spring, and locking switch in first half of the housing.

9 FIG. 10 is a perspective view of the assembled self wiping toiletry device showing its
10 operation.

11 FIG. 11 is a perspective view of the assembled self wiping toiletry device showing its
12 operation during toilet paper rolling.

13 FIG. 12 is another perspective view of the assembled self wiping toiletry device showing
14 its operation.

15 FIG. 13 is an exploded view of the parts of the self wiping toiletry device showing the
16 relative position of each part to the other.

FIG. 14 is an exploded perspective view of the second half housing second end, linkage, and retainer arm as placed together.

DETAILED DESCRIPTION

21 Referring now to the drawings, there is shown in FIGS. 1 - 16 a preferred embodiment of the
22 self wiping toiletry device 10 of the present invention. The apparatus and method of use of the
23 present art is especially adapted to allow easy, convenient, and hygienic wiping after toilet use. A
24 unique feature of the present invention is its ability to hold toilet paper for hygienic wiping and also
25 assist the user to roll the paper prior to use. The apparatus and method presented allows for
26 handicapped persons and those with limited arm movement to utilize toilet facilities without assistance
27 from another person.

28 The drawings show the self wiping toiletry device 10 comprising a nearly "L" shaped form

1 12 forming a housing **56** and having a hand grip **22** and a thumb triggerable toilet paper release button
2 **18** at a first end **16**. The aforesaid handgrip **22** also functions as a toilet paper roller, utilizing a grip-
3 release locking switch **32** (much like a flash light switch), which allows release of the grip **22**. Once
4 released, the grip **22** is allowed to spin freely and allow rolling of toilet paper prior to installation of
5 said rolled paper on or near a second end **38** of the device **10**. The second end **38** of the device **10**
6 comprises a gently-tapered toilet paper mandrel or spindle **40** having a closed end **44**, around which
7 the aforesaid prerolled amount of toilet paper (to be pre-rolled by the user) is slid on and held in place
8 by a pivoting retainer arm **48** which mates with a groove **52** in said mandrel, said groove **52** and arm
9 **48** combination forming a jaw system **46**. The jaw system **46** may take many forms and shapes in
10 alternative embodiments such as clamps, pressing mechanisms, and spring loaded arms, with or
11 without grooves yet having a gap for placement of toilet paper, without departing from the scope of
12 the present art. Said arm **48** is actuated, i.e. opened and closed, with said toilet paper release button
13 **18**. That is, when said release button **18** is depressed, the arm **48** opens and forms a gap for
14 placement or release of the aforesaid toilet paper preroll.

15 In the preferred embodiment, the base **36** of the “L” shape **12** relates to the stem **14** of the “L”
16 shape **12** with an approximately 75 degree minor angle for ease of use and conformance with the
17 user’s body. Alternative embodiments may increase or decrease this angle without departing from
18 the scope and spirit of the present invention. The apparatus at the second end **38** securely holds the
19 aforesaid rolled section of toilet paper until the user is ready to release it from the device by pushing
20 the release button **18** on said first end **26**. A unique and desirable aspect of the present art is that at
21 no time must the user have contact with the soiled paper, nor must the device ever come in contact
22 with the toilet water. The user simply pushes the release button **18** after use and discards the paper
23 into the toilet.

24 In its preferred form, the apparatus comprises a housing **56** having a cavity **60** formed from
25 a first **62** and second half **74**, a linkage **76** moveably positioned within said housing **56** having said
26 release button **18** at a first end **80**, a retainer arm **48** having a torsion spring **96** closure bias and
27 pivotably mounted within said housing **56** and extending externally along said mandrel or spindle **40**,
28 the aforesaid mandrel/spindle **40**, the aforesaid locking switch **32** slideably mounted within said
29 housing **56**, and the aforesaid hand grip **22** which is rotatably mounted over said housing **56** near said

1 first end **16**. A second end **84** of the aforesaid linkage **76** pivotably attaches with said retainer arm
2 **48** whereby said arm **48** may be actuated or opened by opening movement of said release button **18**.
3 The aforesaid torsion spring **96** bias assures that the release button **18** extends from said housing **56**
4 near said first end **16** when not depressed by the user. In a preferred embodiment said
5 mandrel/spindle **40** is an integrally molded portion of said housing **56**, as either a single piece or split
6 halves following the half split line of the housing **56** halves. Further alternative embodiments may
7 utilize other types of spring methods to provide said closure bias, including but not limited to linear
8 compression or extension springs mounted to said linkage **76** or said retainer arm **48**.

9 In the preferred embodiment each housing half **62, 74** is substantially symmetrical and has a
10 nearly "L" shape **12** as aforesaid. Each housing half **62, 74** has one or more attachment means **68**
11 integrally included within the cavity **60** of said first **62** and second half **74**. In a preferred
12 embodiment, said attachment means **68** comprise integrally formed holes or posts **72** for placement
13 of screws, bolts, rivets, or other fasteners. Alternative embodiments may utilize one or more male
14 and female snap fittings which mate and snap together to hold the halves together. Further alternative
15 embodiments may utilize adhesives to attach said first **62** and second **74** halves.

16 In the preferred embodiment, each half housing **62, 74** has one or more guides **64** which fit
17 within slots **82** within said linkage **76** or around said linkage **76** and serve to mechanically position
18 or control the movement of said linkage **76** within the housing **56**. Further contained within said
19 housing halves **62, 74** is a pivoting shaft **66** on which said retainer arm **48** pivots. Said pivoting shaft
20 **66** is located near said second end **38** of said housing **56** and also preferably serves as the moment
21 axis for said torsion spring **96**. Alternative embodiments may forego use of said guides **64** and simply
22 allow the linkage **76** to float within said cavity **60** without departing from the spirit and scope of the
23 present invention. Further alternative embodiments may utilize pins, screws, or other pivoting means
24 to provide said pivoting shaft **66** for said retainer arm **48**.

25 In the preferred embodiment, the linkage **76** is an elongated member **78** having the aforesaid
26 slots **82** and further having a second end **84** angled approximately 45 degrees relative to the
27 lengthwise axis of said elongated member **78**. Said second end **84** further contains one or more
28 positioning shafts **86** which mate and couple with said retainer arm **48** and allow said arm **48** to pivot
29 on said pivoting shaft **66** via movement of the linkage **76**. Alternative embodiments may vary the

1 second end **84** angle from zero to 90 degrees without departing from the scope or spirit of the present
2 invention. Further alternative embodiments may utilize pins, screws, mechanical abutment, flexible
3 shafts, or other means to translate movement of said linkage **76** to said retainer arm **48**.

4 The retainer arm **48** comprises a front end elongated member **88** having a top side **90**
5 contoured to follow and mate with at least a portion of the external portion or contour of said
6 mandrel or spindle **40**. Preferably said retainer arm **48** follows a groove **52** within said mandrel or
7 spindle **40** which also substantially follows the contour of said mandrel or spindle **40**. In the preferred
8 embodiment, said retainer arm **48** mates with said mandrel **40** on the bottom side **42** or side farthest
9 from said first end **16**. Alternative embodiments may place or mate said retainer arm **48** at any
10 location on said mandrel **40** which may physically hold toilet paper. In the preferred embodiment,
11 said retainer arm **48** contains one or more male serrations **50** which mate with one or more female
12 serrations **54** within said groove **52**. Further alternative embodiments may allow said retainer arm
13 **48** to attach directly with said linkage and move to form a gap without pivoting.

14 The retainer arm **48** has a hub **94** located near a rear end **92** which mates with the pivoting
15 shaft **66** of the housing **56**. Preferably a torsion spring **96** wraps around said hub **94** with a first arm
16 **98** of said torsion spring **96** attached or abutting with a tab **102** located on the retainer arm **48** and
17 a second end **100** of said torsion spring **96** abutting against the housing **56** and/or internal mandrel
18 **40** cavity. As aforesaid, alternative embodiments may utilize other spring means located on said
19 retainer arm **48** or said linkage **76** without departing from the scope of the present invention. The
20 retainer arm **48** also has a linkage hole **104** into which the positioning shaft **86** of the linkage **76**
21 pivotably mates. Said linkage hole **104** is preferably located between said hub **94** and said retainer
22 arm **48** but in alternative embodiments may be located at any position on said retainer arm **48**,
23 provided said linkage **76** is functionally able to cause said arm **48** to pivot on said pivoting shaft **66**.

24 In the preferred embodiment, said mandrel or spindle **40** is integrally molded with said stem
25 **14** of said housing **56**. In an alternative embodiment, said mandrel or spindle **40** comprises a
26 substantially tubular form having a taper towards a closed **44** second end **43** with an open first end
27 which mates with the assembled housing **56**. Said open first end attaches with an alternative
28 embodiment second end of said housing **56**, preferably by sliding over said alternative embodiment
29 second end and securing with a parallel or perpendicular screw. Alternative embodiments may attach

1 said mandrel in a plurality of ways including but not limited to adhesives, solvent bonds, integral
2 molding, or frictional fits.

3 The aforesaid locking switch **32** simply slidably mounts within a groove **58** or opening within
4 said housing **56** and has a projection **34** which serves to lock and prevent rotation of the hand grip
5 **22**. The hand grip **22** is a substantially tubular structure **24** having a first end **26** and second end **28**
6 which slides over the first end **16** of said housing **56** and rotates on said housing **56**. The hand grip
7 **22** is held onto said housing via grooves and/or extending rings **20** on said housing **56** which mate
8 with the interior of said hand grip **22**. In the preferred form, the hand grip **22** contains a plurality of
9 notches **30** on a second end **28** which mate with said projection **34** on said locking switch **32** when
10 locking is desired. Locking of said hand grip **22** is essential after toilet paper is installed on said
11 mandrel **40**. That is, in order to securely use the device the housing **56** cannot rotate relative to the
12 hand grip **22**. As aforementioned, it is desirable to have the hand grip **22** rotate when initially rolling
13 toilet paper for placement onto the mandrel **40**.

14 In operation and use, the user, if desired, unlocks the hand grip **22** and rotates toilet paper
15 thereupon. Upon achieving the desired amount of roll, the user removes the toilet paper from the
16 hand grip **22**, pushes the release button **18**, and places said toilet paper onto and or around said
17 mandrel **40** and between said retainer arm **48**. Once placed, the user releases the release button **18**
18 to allow said retainer arm **48** to hold said paper onto said mandrel **40**. Thereafter the user places the
19 mandrel **40** end surrounded by paper near and onto the wiping location and performs the required
20 wipe. Once soiled, the paper may be discarded by simply pushing the release button **18**, thereby
21 opening the retainer arm **48** and allowing said paper to fall from said mandrel **40** and into the toilet
22 water.

23 From the foregoing description, those skilled in the art will appreciate that all objects of the
24 present invention are realized. A self wiping toiletry device is described and shown. The apparatus
25 is particularly adapted for assisting handicapped or disabled persons with hygienic toilet use. The self
26 wiping toiletry device of the present invention allows persons with limited hand usage to
27 independently perform wiping after toilet use.

28 Having described the invention in detail, those skilled in the art will appreciate that
29 modifications may be made to the invention without departing from its spirit. Therefore, it is not

1 intended that the scope of the invention be limited to the specific embodiments illustrated and
2 described. Rather it is intended that the scope of this invention be determined by the appended claims
3 and their equivalents.

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